SEQUENCE LISTING

<110> RNA-LINE OY					
<120> Soluble RNA polymerase protein and methods for the use thereof	£				
<130> HY2PCT					
<160> 15					
<170> PatentIn version 3.1					
<210> 1 <211> 4206					
<212> DNA					
<213> Neurospora crassa					
<400> 1 atgaacccta ttactcctag gaagaggaat agccccgtcg aggaaatcat aaaccggctc	60				
aataacgact acaacctggg cctccagtgt gtcgcagaca caactctcac cccccaccgc	120				
cggaaggagc tggccgagag tgacgaggat ttcggtcgcc atgacaagat ctacagagcc	180				
ctgaactttc tctactggcg gaaggatgac tccctgaacc aggcagaagc caacttcttc	240				
atcgaggcca aagctgcgag ctcgaactgg gtgcccaaag cccacgccga ccctgacacg	300				
cttccgtggt ccaaggaacc tccccgcgcc gctactgccg gccaacaatg ggcattgcag	360				
actgtgttgc tcgaggtgct taataggttt atgccacctc ccaataacac accaggtcga	420				
acgtttggca gaactctaag cggcccaagt ggcctgagcc gcccaacctc taccaacacc	480				
aaacgcaagg atgagcccgc caatgtcact ttcgctgatc cgcccaaacg ctcgttgact	540				
cgctctgcca caggtcctcc tattcacggc gcggcgatac ccctaaagtt ccccgatcca	600				
gtgaataccg gttccaaacg accatctctc gagagtgaga atctcaatca gtgcaccaag	660				
cgggccaagg gcaagctgtc tgataatgtt gccgctgccg ccgccccgcc	720				
gcgagcgctt tggacaaggt accgactcga aggcatgcca atacgagaga tcccacggcg	780				
acaggtcata gacgagcgga ccaggtggat tcctttgata catctcaagg cacttcctat	840				
ggttcgagtg tcttcagcgc ttgccgtcac aatcagagca ctacccagag tagttttgag	900				
gcccctcctt cacagcccag agagaagcgg cctgtggatg ccacggtctt tgaggctgga	960				
cacttgattg agtctcctag caaaggaaga acaaccaagt cccacataga taaccagccc	1020				
ctttcatcgt cctcccaggg tgaaacttcg ttcagcactt actatgagtc gtttccaagt	1080				
teeggeggeg agggegeaat teeegageeg agtegeteaa atggaetgge teggagegaa	1140				
gaaagcgctc gatctcaggt tcaagttcat gccccggtgg ttgcagctcg gctgagaaat	1200				

atttggccga aatttcccaa atggctacac gaagctcctc tcgctgttgc atgggaagtt 1260

accagactct ttatgcactg caaagtagac ttggaagacg agagcctggg cctaaagtac 1320 gaccetteet ggtetacege gegegatgte acagatatet ggaagaetet etaceggett 1380 gatgctttcc gtggtaaacc ctttccagaa aagccgccca acgacgtgtt cgtgaccgca 1440 atgacgggca actitgagag caaaggtagt gccgttgttc tctctgctgt tctagactac 1500 1560 aatccggaca actcgcctac tgcgcccctt taccttgtga agctgaagcc gctcatgttc 1620 gagcagggct gtcgactcac ccgtcggttc ggtcctgata ggtttttcga gatccttata 1680 ccgtcgccta cgagcaccag cccaagtgta ccgccggtgg tcagcaaaca accaggtgcg 1740 gtcgaagaag tcatccagtg gctcacgatg gggcaacatt ctcttgtagg ccgccaatgg cgcgctttct tcgccaaaga tgccggatac aggaaacctc tcagggagtt ccagctccgc 1800 1860 gccgaggacc cgaaacccat catcaaggag agagtccact tctttgccga gaccggcatt acgttccgac ctgatgtgtt caagacgaga tctgtcgttc cggcagagga acctgtagag 1920 1980 caacggaccg agttcaaagt tagtcaaatg ctggactggc tcctgcaact cgacaacaac 2040 acttggcagc cgcacctcaa gttgttctcc cgtatccagc tcggtctgag taagacatat gccattatga cattggagcc tcaccagatc agacaccaca agaccgatct tctttcacct 2100 2160 tcaggcactg gcgaagtgat gaatgacggt gtaggccgca tgtcgcgaag cgtggccaag 2220 aggatacgcg atgttctcgg tttgggtgat gtgccctctg ctgtgcaagg gcggtttggt 2280 tcggccaagg gaatgtgggt tatcgacgtt gacgacacag gcgatgagga ttggatcgag 2340 acatacccgt cccagcgcaa gtgggaatgc gacttcgttg ataaacatca acgtaccctc 2400 gaagtccgga gcgtggcttc tgaactgaag tcagctggtc tcaacctaca gctgttacct 2460 gtcctggaag atagagccag ggacaaggtg aagatgcgcc aggcaatcgg tgaccgtctt atcaacgatt tgcaacgaca gttcagcgag caaaagcatg ctttgaatcg cccagtggaa 2520 2580 tttcgccaat gggtttacga gagttattcc agtcgcgcaa ctcgagtcag ccacggccgt 2640 gtgccttttc ttgctgggct acctgacagt caagaggaga cactgaactt cttgatgaac 2700 agtgggttcg atcccaagaa gcaaaagtac ttgcaagaca tcgcctggga tcttcaaaag 2760 cggaaatgtg acacgttgaa gtccaagctg aacatccgtg tcggtcgatc agcatacatt 2820 tacatgattg ccgatttctg gggtgtgctt gaggaaaatg aggttcatgt cggattctcc tcaaagttca gagacgagga ggagtctttt acactcctat cggactgtga tgtcctcgtg 2880 gcgcgatccc cagcccattt ccctagtgat atccaacggg ttcgagcagt cttcaagcca 2940 3000 gagetecaca gteteaagga tgtaateate ttetetacta aaggagatgt acegettget 3060 aagaagctat ctggtggaga ctacgacggc gatatggcct gggtctgctg ggatccggag

atogtogatg gtttcgtcaa tgcggaaatg cototggago ccgacctgto taggtaccta

3120

aagaaggaca aaacgac	ttt caaacaactt	atggcctcac	acggcacggg	ctcagcggcc	3180
aaagagcaga ctacata	cga tatgatccag	aagagcttcc	atttcgccct	gcagcccaac	3240
ttcttgggca tgtgcac	taa ctacaaagaa	aggctctgtt	acatcaacaa	tagtgtgtct	3300
aacaagccgg ccatcat	tct tagttcactg	gtgggaaacc	tcgtcgatca	gagcaagcaa	3360
ggtattgtct ttaacga	age aagetggget	caattgcgta	gggaactgct	tggcggtgca	3420
ttgtcccttc ctgaccc	aat gtacaagagc	gacagttggc	tcgggcgcgg	agagcctacc	3480
cacattattg actacct	gaa attctccatc	gccaggcctg	cgattgacaa	ggaactggaa	3540
gccttccaca atgccat	gaa agcggccaag	gatacagaag	acggcgctca	cttttgggat	3600
ccggatctcg cttccta	acta cacgttcttc	aaggagatta	gcgacaagtc	gcgatcgtcc	3660
gcactgctat tcacgad	tct gaagaaccgt	atcggcgaag	tcgagaaaga	atatggcagg	3720
ttggtcaaaa acaagga	agat gagagacagc	aaggacccct	accctgtccg	cgtcaaccag	3780
gtttatgaaa aatggto	gcgc catcacgcct	gaggcgatgg	acaaatccgg	agcaaattat	3840
gattctaagg tgatcag	ggtt gctggagctg	tecttecteg	cggaccgtga	gatgaataca	3900
tgggcattgc tgaggg	tag cacggettte	aagctgtact	accacaagag	ccccaagttc	3960
gtgtggcaga tggcggg	gcag acagetegeg	tacattaagg	cgcagatgac	gagcagaccc	4020
ggtgaaggcg ccccgg	gtt gatgaccgcg	ttcatgtatg	cgggcttgat	gccggataag	4080
aagtttacga agcagta	atgt ggccaggctg	gagggcgatg	gatcggagta	ccctgatccg	4140
gaggtctatg aagtgc	ggg cgatgatgat	tttgatggaa	ttggtttcac	agggaatggc	4200
gattat					4206

<210> 2 <211> 1402

<212> PRT

<213> Neurospora crassa

<400> 2

Met Asn Pro Ile Thr Pro Arg Lys Arg Asn Ser Pro Val Glu Glu Ile

Ile Asn Arg Leu Asn Asn Asp Tyr Asn Leu Gly Leu Gln Cys Val Ala 20 25 30

Asp Thr Thr Leu Thr Pro His Arg Arg Lys Glu Leu Ala Glu Ser Asp 35 40

Glu Asp Phe Gly Arg His Asp Lys Ile Tyr Arg Ala Leu Asn Phe Leu 50 55 60

WO 2004/035784 PCT/FI2003/000776

Tyr Trp Arg Lys Asp Asp Ser Leu Asn Gln Ala Glu Ala Asn Phe Phe 65 70 75 80

Ile Glu Ala Lys Ala Ala Ser Ser Asn Trp Val Pro Lys Ala His Ala 85 90 95

Asp Pro Asp Thr Leu Pro Trp Ser Lys Glu Pro Pro Arg Ala Ala Thr 100 105 110

Ala Gly Gln Gln Trp Ala Leu Gln Thr Val Leu Leu Glu Val Leu Asn 115 120 125

Arg Phe Met Pro Pro Pro Asn Asn Thr Pro Gly Arg Thr Phe Gly Arg 130 135 140

Thr Leu Ser Gly Pro Ser Gly Leu Ser Arg Pro Thr Ser Thr Asn Thr 145 150 155 160

Lys Arg Lys Asp Glu Pro Ala Asn Val Thr Phe Ala Asp Pro Pro Lys 165 170 175

Arg Ser Leu Thr Arg Ser Ala Thr Gly Pro Pro Ile His Gly Ala Ala 180 185 190

Ile Pro Leu Lys Phe Pro Asp Pro Val Asn Thr Gly Ser Lys Arg Pro 195 200 205

Ser Leu Glu Ser Glu Asn Leu Asn Gln Cys Thr Lys Arg Ala Lys Gly 210 215 220

Lys Leu Ser Asp Asn Val Ala Ala Ala Ala Pro Pro Val Pro Ile 225 230 235 240

Ala Ser Ala Leu Asp Lys Val Pro Thr Arg Arg His Ala Asn Thr Arg 245 250 255

Asp Pro Thr Ala Thr Gly His Arg Arg Ala Asp Gln Val Asp Ser Phe 260 265 270

Asp Thr Ser Gln Gly Thr Ser Tyr Gly Ser Ser Val Phe Ser Ala Cys 275 280 285

Arg His Asn Gln Ser Thr Thr Gln Ser Ser Phe Glu Ala Pro Pro Ser 290 295 300

Gln Pro Arg Glu Lys Arg Pro Val Asp Ala Thr Val Phe Glu Ala Gly 305 310 315 320

His Leu Ile Glu Ser Pro Ser Lys Gly Arg Thr Thr Lys Ser His Ile

Asp Asn Gln Pro Leu Ser Ser Ser Ser Gln Gly Glu Thr Ser Phe Ser

330

Thr Tyr Tyr Glu Ser Phe Pro Ser Ser Gly Gly Glu Gly Ala Ile Pro 355 360 365

Glu Pro Ser Arg Ser Asn Gly Leu Ala Arg Ser Glu Glu Ser Ala Arg 370 375 380

Ser Gln Val Gln Val His Ala Pro Val Val Ala Ala Arg Leu Arg Asn 385 390 395 400

Ile Trp Pro Lys Phe Pro Lys Trp Leu His Glu Ala Pro Leu Ala Val 405 410 415

Ala Trp Glu Val Thr Arg Leu Phe Met His Cys Lys Val Asp Leu Glu 420 425 430

Asp Glu Ser Leu Gly Leu Lys Tyr Asp Pro Ser Trp Ser Thr Ala Arg
435
440
445

Asp Val Thr Asp Ile Trp Lys Thr Leu Tyr Arg Leu Asp Ala Phe Arg 450 455 460

Gly Lys Pro Phe Pro Glu Lys Pro Pro Asn Asp Val Phe Val Thr Ala 465 470 475 480

Met Thr Gly Asn Phe Glu Ser Lys Gly Ser Ala Val Val Leu Ser Ala 485 490 495

Val Leu Asp Tyr Asn Pro Asp Asn Ser Pro Thr Ala Pro Leu Tyr Leu 500 505 510

Val Lys Leu Lys Pro Leu Met Phe Glu Gln Gly Cys Arg Leu Thr Arg 515 520 525

Arg Phe Gly Pro Asp Arg Phe Phe Glu Ile Leu Ile Pro Ser Pro Thr 530 540

PCT/FI2003/000776 WO 2004/035784

Ser Thr Ser Pro Ser Val Pro Pro Val Val Ser Lys Gln Pro Gly Ala

Val Glu Glu Val Ile Gln Trp Leu Thr Met Gly Gln His Ser Leu Val

Gly Arg Gln Trp Arg Ala Phe Phe Ala Lys Asp Ala Gly Tyr Arg Lys

Pro Leu Arg Glu Phe Gln Leu Arg Ala Glu Asp Pro Lys Pro Ile Ile

Lys Glu Arg Val His Phe Phe Ala Glu Thr Gly Ile Thr Phe Arg Pro

Asp Val Phe Lys Thr Arg Ser Val Val Pro Ala Glu Glu Pro Val Glu

Gln Arg Thr Glu Phe Lys Val Ser Gln Met Leu Asp Trp Leu Leu Gln

Leu Asp Asn Asn Thr Trp Gln Pro His Leu Lys Leu Phe Ser Arg Ile

Gln Leu Gly Leu Ser Lys Thr Tyr Ala Ile Met Thr Leu Glu Pro His

Gln Ile Arg His His Lys Thr Asp Leu Leu Ser Pro Ser Gly Thr Gly

Glu Val Met Asn Asp Gly Val Gly Arg Met Ser Arg Ser Val Ala Lys

Arg Ile Arg Asp Val Leu Gly Leu Gly Asp Val Pro Ser Ala Val Gln

Gly Arg Phe Gly Ser Ala Lys Gly Met Trp Val Ile Asp Val Asp Asp

Thr Gly Asp Glu Asp Trp Ile Glu Thr Tyr Pro Ser Gln Arg Lys Trp

Glu Cys Asp Phe Val Asp Lys His Gln Arg Thr Leu Glu Val Arg Ser

Val Ala Ser Glu Leu Lys Ser Ala Gly Leu Asn Leu Gln Leu Leu Pro

WO 2004/035784 PCT/FI2003/000776

790 . 795

Val Leu Glu Asp Arg Ala Arg Asp Lys Val Lys Met Arg Gln Ala Ile

Gly Asp Arg Leu Ile Asn Asp Leu Gln Arg Gln Phe Ser Glu Gln Lys

His Ala Leu Asn Arg Pro Val Glu Phe Arg Gln Trp Val Tyr Glu Ser

Tyr Ser Ser Arg Ala Thr Arg Val Ser His Gly Arg Val Pro Phe Leu

Ala Gly Leu Pro Asp Ser Gln Glu Glu Thr Leu Asn Phe Leu Met Asn

Ser Gly Phe Asp Pro Lys Lys Gln Lys Tyr Leu Gln Asp Ile Ala Trp

Asp Leu Gln Lys Arg Lys Cys Asp Thr Leu Lys Ser Lys Leu Asn Ile

Arg Val Gly Arg Ser Ala Tyr Ile Tyr Met Ile Ala Asp Phe Trp Gly

Val Leu Glu Glu Asn Glu Val His Val Gly Phe Ser Ser Lys Phe Arg

Asp Glu Glu Glu Ser Phe Thr Leu Leu Ser Asp Cys Asp Val Leu Val

Ala Arg Ser Pro Ala His Phe Pro Ser Asp Ile Gln Arg Val Arg Ala

Val Phe Lys Pro Glu Leu His Ser Leu Lys Asp Val Ile Ile Phe Ser

Thr Lys Gly Asp Val Pro Leu Ala Lys Lys Leu Ser Gly Gly Asp Tyr

Asp Gly Asp Met Ala Trp Val Cys Trp Asp Pro Glu Ile Val Asp

Gly Phe Val Asn Ala Glu Met Pro Leu Glu Pro Asp Leu Ser Arg

- Tyr Leu Lys Lys Asp Lys Thr Thr Phe Lys Gln Leu Met Ala Ser 1045
- His Gly Thr Gly Ser Ala Ala Lys Glu Gln Thr Thr Tyr Asp Met 1055 1060
- Ile Gln Lys Ser Phe His Phe Ala Leu Gln Pro Asn Phe Leu Gly 1070 1075
- Met Cys Thr Asn Tyr Lys Glu Arg Leu Cys Tyr Ile Asn Asn Ser 1085 1095 1090
- Val Ser Asn Lys Pro Ala Ile Ile Leu Ser Ser Leu Val Gly Asn 1100 1105 1110 1100
- Leu Val Asp Gln Ser Lys Gln Gly Ile Val Phe Asn Glu Ala Ser 1115 1120 1125
- Trp Ala Gln Leu Arg Arg Glu Leu Leu Gly Gly Ala Leu Ser Leu 1130 1135
- Pro Asp Pro Met Tyr Lys Ser Asp Ser Trp Leu Gly Arg Gly Glu 1145 1150
- Pro Thr His Ile Ile Asp Tyr Leu Lys Phe Ser Ile Ala Arg Pro 1165 1170 1160
- Ala Ile Asp Lys Glu Leu Glu Ala Phe His Asn Ala Met Lys Ala 1175 1180 1185
- Ala Lys Asp Thr Glu Asp Gly Ala His Phe Trp Asp Pro Asp Leu 1190 1195
- Ala Ser Tyr Tyr Thr Phe Phe Lys Glu Ile Ser Asp Lys Ser Arg 1205 1210
- Ser Ser Ala Leu Leu Phe Thr Thr Leu Lys Asn Arg Ile Gly Glu 1220 1225 1230
- Val Glu Lys Glu Tyr Gly Arg Leu Val Lys Asn Lys Glu Met Arg 1235 1240 1245
- Asp Ser Lys Asp Pro Tyr Pro Val Arg Val Asn Gln Val Tyr Glu 1255 1260 1250

WO 2004/035784 PCT/FI2003/000776

Lys Trp Cys Ala Ile Thr Pro Glu Ala Met Asp Lys Ser Gly Ala 1275 1270 1265 Asn Tyr Asp Ser Lys Val Ile Arg Leu Leu Glu Leu Ser Phe Leu 1280 1285 Ala Asp Arg Glu Met Asn Thr Trp Ala Leu Leu Arg Ala Ser Thr 1295 1300 Ala Phe Lys Leu Tyr Tyr His Lys Ser Pro Lys Phe Val Trp Gln 1315 1320 1310 Met Ala Gly Arg Gln Leu Ala Tyr Ile Lys Ala Gln Met Thr Ser 1325 1330 1335 Arg Pro Gly Glu Gly Ala Pro Ala Leu Met Thr Ala Phe Met Tyr 1340 1345 1350 Ala Gly Leu Met Pro Asp Lys Lys Phe Thr Lys Gln Tyr Val Ala 1360 1365 Arg Leu Glu Gly Asp Gly Ser Glu Tyr Pro Asp Pro Glu Val Tyr 1370 1375 Glu Val Leu Gly Asp Asp Phe Asp Gly Ile Gly Phe Thr Gly 1385 1390 Asn Gly Asp Tyr 1400 <210> 3 <211> 3078 <212> DNA <213> Neurospora crassa <400> 3 gctcggagcg aagaaagcgc tcgatctcag gttcaagttc atgccccggt ggttgcagct 60 cggctgagaa atatttggcc gaaatttccc aaatggctac acgaagctcc tctcgctgtt 120 gcatgggaag ttaccagact ctttatgcac tgcaaagtag acttggaaga cgagagcctg 180 240 ggcctaaagt acgaccette etggtetace gegegegatg teacagatat etggaagaet 300 ctctaccggc ttgatgcttt ccgtggtaaa ccctttccag aaaagccgcc caacgacgtg 360 ttcgtgaccg caatgacggg caactttgag agcaaaggta gtgccgttgt tctctctgct

gttctagact acaatccgga caactcgcct actgcgcccc tttaccttgt gaagctgaag

420

ccgctcatgt	tcgagcaggg	ctgtcgactc	accegteggt	tcggtcctga	taggtttttc	480
gagatcctta	taccgtcgcc	tacgagcacc	agcccaagtg	taccgccggt	ggtcagcaaa	540
caaccaggtg	cggtcgaaga	agtcatccag	tggctcacga	tggggcaaca	ttctcttgta	600
ggccgccaat	ggcgcgcttt	cttcgccaaa	gatgccggat	acaggaaacc	tctcagggag	660
ttccagctcc	gcgccgagga	cccgaaaccc	atcatcaagg	agagagtcca	cttctttgcc	720
gagaccggca	ttacgttccg	acctgatgtg	ttcaagacga	gatctgtcgt	tccggcagag	780
gaacctgtag	agcaacggac	cgagttcaaa	gttagtcaaa	tgctggactg	gctcctgcaa	840
ctcgacaaca	acacttggca	gccgcacctc	aagttgttct	cccgtatcca	gctcggtctg	900
agtaagacat	atgccattat	gacattggag	cctcaccaga	tcagacacca	caagaccgat	960
cttctttcac	cttcaggcac	tggcgaagtg	atgaatgacg	gtgtaggccg	catgtcgcga	1020
agcgtggcca	agaggatacg	cgatgttctc	ggtttgggtg	atgtgccctc	tgctgtgcaa	1080
gggcggtttg	gttcggccaa	gggaatgtgg	gttatcgacg	ttgacgacac	aggcgatgag	1140
gattggatcg	agacataccc	gtcccagcgc	aagtgggaat	gcgacttcgt	tgataaacat	1200
caacgtaccc	tcgaagtccg	gagcgtggct	tctgaactga	agtcagctgg	tctcaaccta	1260
cagctgttac	ctgtcctgga	agatagagcc	agggacaagg	tgaagatgcg	ccaggcaatc	1320
ggtgaccgtc	ttatcaacga	tttgcaacga	cagttcagcg	agcaaaagca	tgctttgaat	1380
cgcccagtgg	aatttcgcca	atgggtttac	gagagttatt	ccagtcgcgc	aactcgagtc	1440
agccacggcc	gtgtgccttt	tcttgctggg	ctacctgaca	gtcaagagga	gacactgaac	1500
ttcttgatga	acagtgggtt	cgatcccaag	aagcaaaagt	acttgcaaga	catcgcctgg	1560
gatcttcaaa	agcggaaatg	tgacacgttg	aagtccaagc	tgaacatccg	tgtcggtcga	1620
tcagcataca	tttacatgat	tgccgatttc	tggggtgtgc	ttgaggaaaa	tgaggttcat	1680
gtcggattct	cctcaaagtt	cagagacgag	gaggagtctt	ttacactcct	atcggactgt	1740
gatgtcctcg	tggcgcgatc	cccagcccat	ttccctagtg	atatccaacg	ggttcgagca	1800
gtcttcaagc	cagageteca	cagtctcaag	gatgtaatca	tcttctctac	taaaggagat	1860
gtaccgcttg	ctaagaagct	atctggtgga	gactacgacg	gcgatatggc	ctgggtctgc	1920
tgggatccgg	agatcgtcga	tggtttcgtc	aatgcggaaa	tgcctctgga	gcccgacctg	1980
tctaggtacc	taaagaagga	caaaacgact	ttcaaacaac	ttatggcctc	acacggcacg	2040
ggctcagcgg	ccaaagagca	gactacatac	gatatgatcc	agaagagctt	ccatttcgcc	2100
ctgcagccca	acttcttggg	catgtgcact	aactacaaag	aaaggctctg	ttacatcaac	2160
aatagtgtgt	ctaacaagcc	ggccatcatt	cttagttcac	tggtgggaaa	cctcgtcgat	2220
cagagcaagc	aaggtattgt	ctttaacgaa	gcaagctggg	ctcaattgcg	tagggaactg	2280

cttggcggtg	cattgtccct	tcctgaccca	atgtacaaga	gcgacagttg	gctcgggcgc	2340
ggagagccta	cccacattat	tgactacctg	aaattctcca	tcgccaggcc	tgcgattgac	2400
aaggaactgg	aagccttcca	caatgccatg	aaagcggcca	aggatacaga	agacggcgct	2460
cacttttggg	atccggatct	cgcttcctac	tacacgttct	tcaaggagat	tagcgacaag	2520
tcgcgatcgt	ccgcactgct	attcacgact	ctgaagaacc	gtatcggcga	agtcgagaaa	2580
gaatatggca	ggttggtcaa	aaacaaggag	atgagagaca	gcaaggaccc	ctaccctgtc	2640
cgcgtcaacc	aggtttatga	aaaatggtgc	gccatcacgc	ctgaggcgat	ggacaaatcc	2700
ggagcaaatt	atgattctaa	ggtgatcagg	ttgctggagc	tgtccttcct	cgcggaccgt	2760
gagatgaata	catgggcatt	gctgagggct	agcacggctt	tcaagctgta	ctaccacaag	2820
agccccaagt	tcgtgtggca	gatggcgggc	agacagctcg	cgtacattaa	ggcgcagatg	2880
acgagcagac	ccggtgaagg	cgccccggcg	ttgatgaccg	cgttcatgta	tgcgggcttg	2940
atgccggata	agaagtttac	gaagcagtat	gtggccaggc	tggagggcga	tggatcggag	3000
taccctgatc	cggaggtcta	tgaagtgctg	ggcgatgatg	attttgatgg	aattggtttc	3060
acagggaatg	gcgattat					3078

<210> 4

<211> 1026 <212> PRT

<213> Neurospora crassa

<400> 4

Ala Arg Ser Glu Glu Ser Ala Arg Ser Gln Val Gln Val His Ala Pro

Val Val Ala Ala Arg Leu Arg Asn Ile Trp Pro Lys Phe Pro Lys Trp

Leu His Glu Ala Pro Leu Ala Val Ala Trp Glu Val Thr Arg Leu Phe

Met His Cys Lys Val Asp Leu Glu Asp Glu Ser Leu Gly Leu Lys Tyr 50 55

Asp Pro Ser Trp Ser Thr Ala Arg Asp Val Thr Asp Ile Trp Lys Thr 70 65

Leu Tyr Arg Leu Asp Ala Phe Arg Gly Lys Pro Phe Pro Glu Lys Pro 90 95 85

Pro Asn Asp Val Phe Val Thr Ala Met Thr Gly Asn Phe Glu Ser Lys
100 105 110

Gly Ser Ala Val Val Leu Ser Ala Val Leu Asp Tyr Asn Pro Asp Asn 115 120 125

Ser Pro Thr Ala Pro Leu Tyr Leu Val Lys Leu Lys Pro Leu Met Phe 130 135 140

Glu Gln Gly Cys Arg Leu Thr Arg Arg Phe Gly Pro Asp Arg Phe Phe 145 150 155 160

Glu Ile Leu Ile Pro Ser Pro Thr Ser Thr Ser Pro Ser Val Pro Pro 165 170 175

Val Val Ser Lys Gln Pro Gly Ala Val Glu Glu Val Ile Gln Trp Leu 180 185 190

Thr Met Gly Gln His Ser Leu Val Gly Arg Gln Trp Arg Ala Phe Phe 195 200 205

Ala Lys Asp Ala Gly Tyr Arg Lys Pro Leu Arg Glu Phe Gln Leu Arg 210 215 220

Ala Glu Asp Pro Lys Pro Ile Ile Lys Glu Arg Val His Phe Phe Ala 225 230 235 240

Glu Thr Gly Ile Thr Phe Arg Pro Asp Val Phe Lys Thr Arg Ser Val 245 250 255

Val Pro Ala Glu Glu Pro Val Glu Gln Arg Thr Glu Phe Lys Val Ser 260 265 270

Gln Met Leu Asp Trp Leu Leu Gln Leu Asp Asn Asn Thr Trp Gln Pro 275 280 285

His Leu Lys Leu Phe Ser Arg Ile Gln Leu Gly Leu Ser Lys Thr Tyr 290 295 300

Ala Ile Met Thr Leu Glu Pro His Gln Ile Arg His His Lys Thr Asp 305 310 315 320

Leu Leu Ser Pro Ser Gly Thr Gly Glu Val Met Asn Asp Gly Val Gly 325 330 335

Arg Met Ser Arg Ser Val Ala Lys Arg Ile Arg Asp Val Leu Gly Leu

WO 2004/035784 PCT/FI2003/000776

340 345 350

Gly Asp Val Pro Ser Ala Val Gln Gly Arg Phe Gly Ser Ala Lys Gly 355 360 365

Met Trp Val Ile Asp Val Asp Asp Thr Gly Asp Glu Asp Trp Ile Glu 370 375 380

Thr Tyr Pro Ser Gln Arg Lys Trp Glu Cys Asp Phe Val Asp Lys His 385 390 395 400

Gln Arg Thr Leu Glu Val Arg Ser Val Ala Ser Glu Leu Lys Ser Ala 405 410 415

Gly Leu Asn Leu Gln Leu Leu Pro Val Leu Glu Asp Arg Ala Arg Asp 420 425 430

Lys Val Lys Met Arg Gln Ala Ile Gly Asp Arg Leu Ile Asn Asp Leu 435 440 445

Gln Arg Gln Phe Ser Glu Gln Lys His Ala Leu Asn Arg Pro Val Glu 450 455 460

Phe Arg Gln Trp Val Tyr Glu Ser Tyr Ser Ser Arg Ala Thr Arg Val 465 470 475 480

Ser His Gly Arg Val Pro Phe Leu Ala Gly Leu Pro Asp Ser Gln Glu 485 490 495

Glu Thr Leu Asn Phe Leu Met Asn Ser Gly Phe Asp Pro Lys Lys Gln 500 505 510

Lys Tyr Leu Gln Asp Ile Ala Trp Asp Leu Gln Lys Arg Lys Cys Asp 515 520 525

Thr Leu Lys Ser Lys Leu Asn Ile Arg Val Gly Arg Ser Ala Tyr Ile 530 535 540

Tyr Met Ile Ala Asp Phe Trp Gly Val Leu Glu Glu Asn Glu Val His 545 550 555 560

Val Gly Phe Ser Ser Lys Phe Arg Asp Glu Glu Glu Ser Phe Thr Leu 565 570 575

Leu Ser Asp Cys Asp Val Leu Val Ala Arg Ser Pro Ala His Phe Pro 580 585 590

Ser Asp Ile Gln Arg Val Arg Ala Val Phe Lys Pro Glu Leu His Ser 595 600 605

Leu Lys Asp Val Ile Ile Phe Ser Thr Lys Gly Asp Val Pro Leu Ala 610 615 620

Lys Lys Leu Ser Gly Gly Asp Tyr Asp Gly Asp Met Ala Trp Val Cys 625 630 635 640

Trp Asp Pro Glu Ile Val Asp Gly Phe Val Asn Ala Glu Met Pro Leu 645 650 655

Glu Pro Asp Leu Ser Arg Tyr Leu Lys Lys Asp Lys Thr Thr Phe Lys 660 665 670

Gln Leu Met Ala Ser His Gly Thr Gly Ser Ala Ala Lys Glu Gln Thr 675 680 685

Thr Tyr Asp Met Ile Gln Lys Ser Phe His Phe Ala Leu Gln Pro Asn 690 695 700

Phe Leu Gly Met Cys Thr Asn Tyr Lys Glu Arg Leu Cys Tyr Ile Asn 705 710 715 720

Asn Ser Val Ser Asn Lys Pro Ala Ile Ile Leu Ser Ser Leu Val Gly
725 730 735

Asn Leu Val Asp Gln Ser Lys Gln Gly Ile Val Phe Asn Glu Ala Ser 740 745 750

Trp Ala Gln Leu Arg Arg Glu Leu Leu Gly Gly Ala Leu Ser Leu Pro 755 760 765

Asp Pro Met Tyr Lys Ser Asp Ser Trp Leu Gly Arg Gly Glu Pro Thr 770 780

His Ile Ile Asp Tyr Leu Lys Phe Ser Ile Ala Arg Pro Ala Ile Asp 785 790 795 800

Lys Glu Leu Glu Ala Phe His Asn Ala Met Lys Ala Ala Lys Asp Thr 805 810 815

Glu Asp Gly Ala His Phe Trp Asp Pro Asp Leu Ala Ser Tyr Tyr Thr 820 825 830

Phe Phe Lys Glu Ile Ser Asp Lys Ser Arg Ser Ser Ala Leu Leu Phe 835 840 845

Thr Thr Leu Lys Asn Arg Ile Gly Glu Val Glu Lys Glu Tyr Gly Arg 850 855 860

Leu Val Lys Asn Lys Glu Met Arg Asp Ser Lys Asp Pro Tyr Pro Val 865 870 875 880

Arg Val Asn Gln Val Tyr Glu Lys Trp Cys Ala Ile Thr Pro Glu Ala 885 890 895

Met Asp Lys Ser Gly Ala Asn Tyr Asp Ser Lys Val Ile Arg Leu Leu 900 905 910

Glu Leu Ser Phe Leu Ala Asp Arg Glu Met Asn Thr Trp Ala Leu Leu 915 920 925

Arg Ala Ser Thr Ala Phe Lys Leu Tyr Tyr His Lys Ser Pro Lys Phe 930 935 940

Val Trp Gln Met Ala Gly Arg Gln Leu Ala Tyr Ile Lys Ala Gln Met 945 950 955 960

Thr Ser Arg Pro Gly Glu Gly Ala Pro Ala Leu Met Thr Ala Phe Met
965 970 975

Tyr Ala Gly Leu Met Pro Asp Lys Phe Thr Lys Gln Tyr Val Ala 980 985 990

Arg Leu Glu Gly Asp Gly Ser Glu Tyr Pro Asp Pro Glu Val Tyr Glu 995 1000 1005

Val Leu Gly Asp Asp Phe Asp Gly Ile Gly Phe Thr Gly Asn 1010 1015 1020

Gly Asp Tyr 1025

<210> 5

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> artificial sequence is primer

<400> 5 30 gtaatacgac tcactatagg ccgtggtggt <210> 6 <211> 30 <212> DNA <213> Artificial Sequence <220> <223> artificial sequence is primer <400> 6 ttttctgaat tctcttgccg cttttattct 30 <210> 7 <211> 30 <212> DNA <213> Artificial Sequence <220> <223> artificial sequence is primer <400> 7 30 gccaagcttc catgaaccct attactccta <210> 8 <211> 28 <212> DNA <213> Artificial Sequence <220> <223> artificial sequence is primer <400> 8 28 ccgaattcat aatcgccatt ccctgtga <210> 9 <211> 30 <212> DNA <213> Artificial Sequence <220> <223> artificial sequence is primer <400> 9 gctcaaatcc catggctcgg agcgaagaaa 30 <210> 10 <211> 30 <212> DNA <213> Artificial Sequence <220> <223> artificial sequence is primer <400> 10

<210> 15

ccgaatt	cta ataatcgcca ttccctgtga	30
.010-	11	
<210> <211>	11 20	
<212>		
	Artificial Sequence	
<220>		
<223>	artificial sequence is primer	
<400>	11	20
guuuuca	accc uauccucccc	20
<210>		
<211>		
<212>	Artificial Sequence	
72137	Altilital bequence	
<220>		
<223>	artificial sequence is primer	
<400>	12	
cgacuca	augg accuugggag	20
<210>	13	
<211>		
<212>		
<213>	Neurospora crassa	
<220>		
	MISC_FEATURE	
	(1)(8)	
<223>	Xaa is any amino acid	
<400>	13	
/400 >		
Gly Se	r Asp Leu Asp Gly Asp Xaa 5	
<210>	14	
<211>	129	
<212>		
<213>	Artificial Sequence	
<220>		
<223>	artificial sequence is tag sequence	
<400>	14	
gaattc	tgca gatatccagc acagtggcgg ccgctcgagt ctagagggcc cttcgaaggt	60
aagcct	atcc ctaaccetet ceteggtete gattetaege gtaceggtea teatcaceat	120
caccat	tga	129
caccac	·	

WO 2004/035784 PCT/FI2003/000776

<211> 42 <212> PRT

<213> Artificial Sequence

<220>

<223> artificial sequence is tag sequence

<400> 15

Glu Phe Cys Arg Tyr Pro Ala Gln Trp Arg Pro Leu Glu Ser Arg Gly
1 5 10 15

Pro Phe Glu Gly Lys Pro Ile Pro Asn Pro Leu Leu Gly Leu Asp Ser 20 25 30

Thr Arg Thr Gly His His His His His 35 40